Patent Application

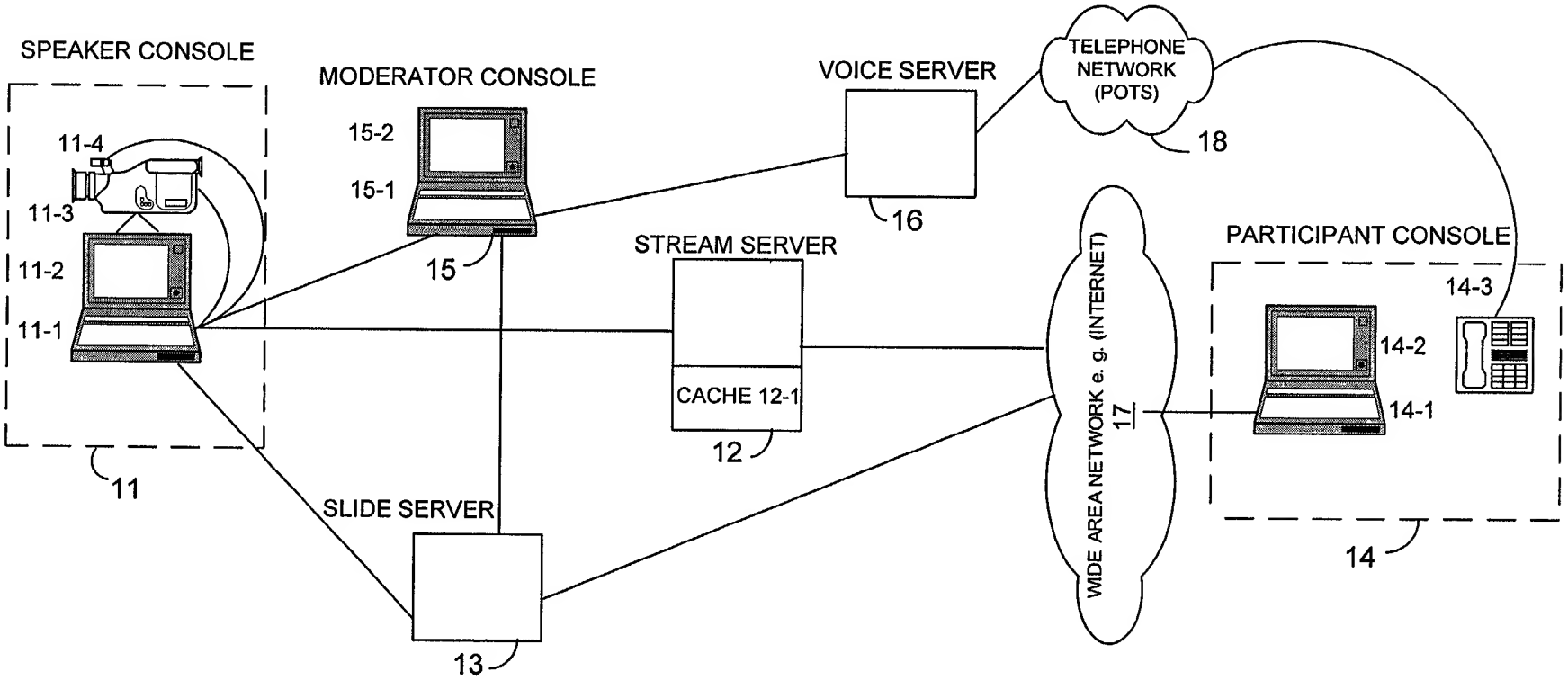



FIG. 1

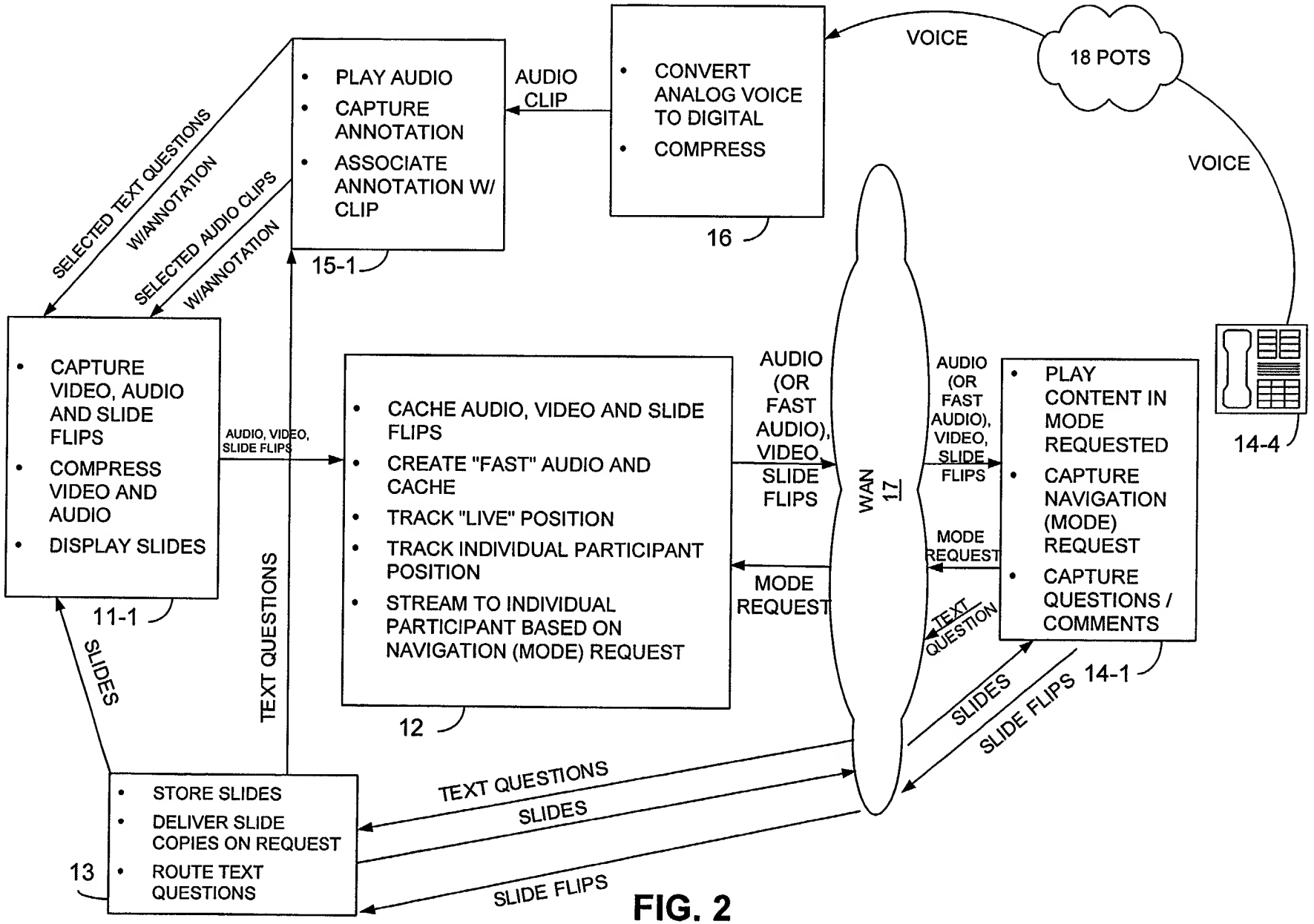
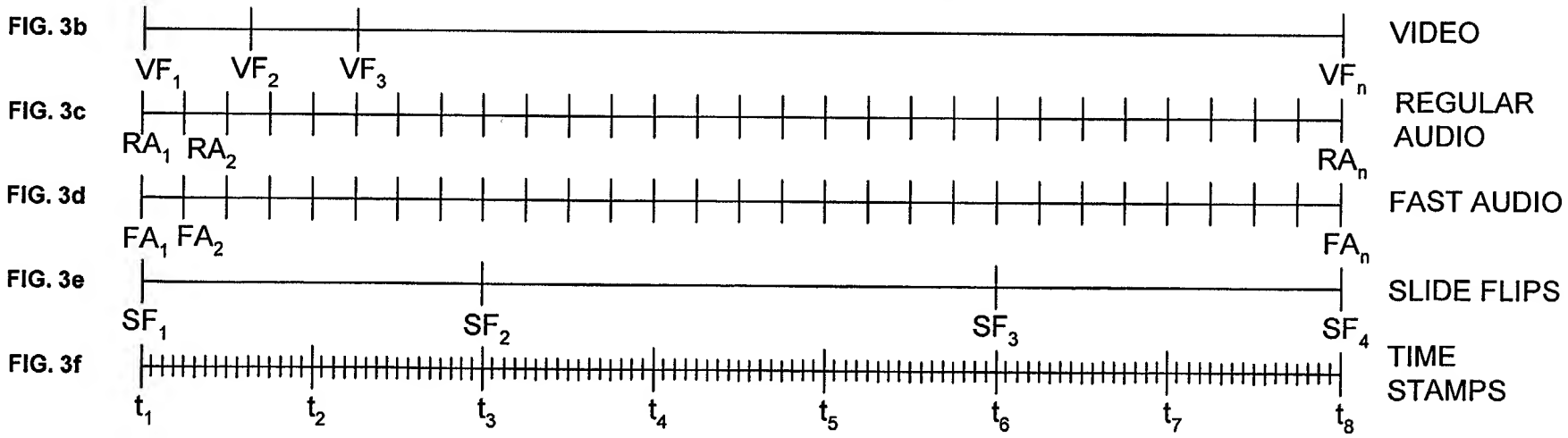

VOICE
18 POTS
VOICE
• CONVERT ANALOG VOICE TO DIGITAL
• COMPRESS
16
AUDIO CLIP
• PLAY AUDIO
• CAPTURE ANNOTATION
• ASSOCIATE ANNOTATION W/ CLIP
15-1
SELECTED TEXT QUESTIONS W/ANNOTATION
SELECTED AUDIO CLIPS W/ANNOTATION
• CAPTURE VIDEO, AUDIO AND SLIDE FLIPS
• COMPRESS VIDEO AND AUDIO
• DISPLAY SLIDES
11-1
AUDIO, VIDEO, SLIDE FLIPS
• CACHE AUDIO, VIDEO AND SLIDE FLIPS
• CREATE "FAST" AUDIO AND CACHE
• TRACK "LIVE" POSITION
• TRACK INDIVIDUAL PARTICIPANT POSITION
• STREAM TO INDIVIDUAL PARTICIPANT BASED ON NAVIGATION (MODE) REQUEST
12
AUDIO (OR FAST AUDIO), VIDEO, SLIDE FLIPS
MODE REQUEST
WAN 17
AUDIO (OR FAST AUDIO), VIDEO, SLIDE FLIPS
MODE REQUEST
TEXT QUESTION
• PLAY CONTENT IN MODE REQUESTED
• CAPTURE NAVIGATION (MODE) REQUEST
• CAPTURE QUESTIONS / COMMENTS
14-1
14-4
SLIDES
SLIDE FLIPS
SLIDES
TEXT QUESTIONS
TEXT QUESTIONS
SLIDES
SLIDE FLIPS
• STORE SLIDES
• DELIVER SLIDE COPIES ON REQUEST
• ROUTE TEXT QUESTIONS
13

FIG. 2

| MODE | DATA STREAMS | CONTENT DELIVERY SPEED | TIME STAMP OF DATA PLAYED |
|---|---|---|---|
| LIVE | VIDEO, REGULAR AUDIO, SLIDE FLIPS | NORMAL | REAL TIME (TIME OF LATEST DATA CAPTURE + NETWORK LATENCY) |
| REWIND | VIDEO, SLIDE FLIPS (SFn-1) | FAST (REVERSE TIME STAMP ORDER) | DEPENDENT ON USER REQUEST |
| PLAY | VIDEO, REGULAR AUDIO, SLIDE FLIPS | NORMAL | DEPENDENT ON USER REQUEST |
| CATCH-UP | VIDEO, FAST AUDIO, SLIDE FLIPS | FAST | BEGIN: DEPENDENT ON USER REQ. & ut< rt END: WHEN ut = rt |
| PAUSE | ——— | ——— | ——— |

FIG. 3a



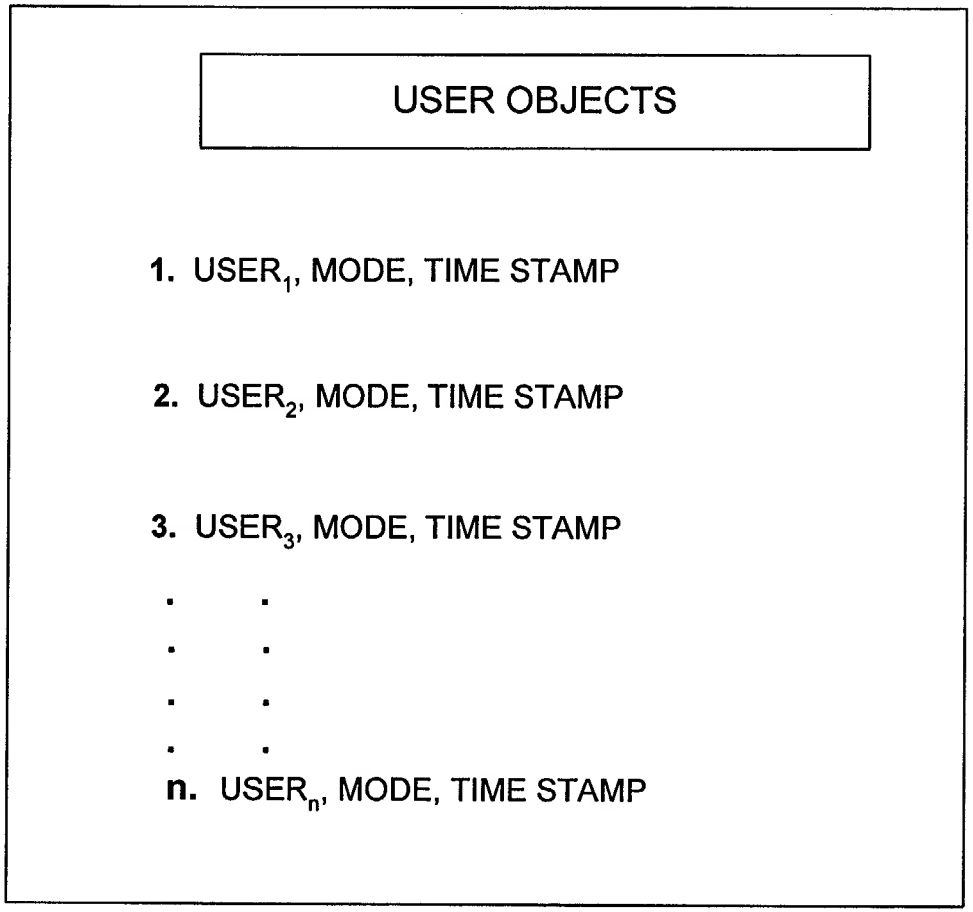

USER OBJECTS
1. USER1, MODE, TIME STAMP
2. USER2, MODE, TIME STAMP
3. USER3, MODE, TIME STAMP
n. USERn, MODE, TIME STAMP

FIG. 4

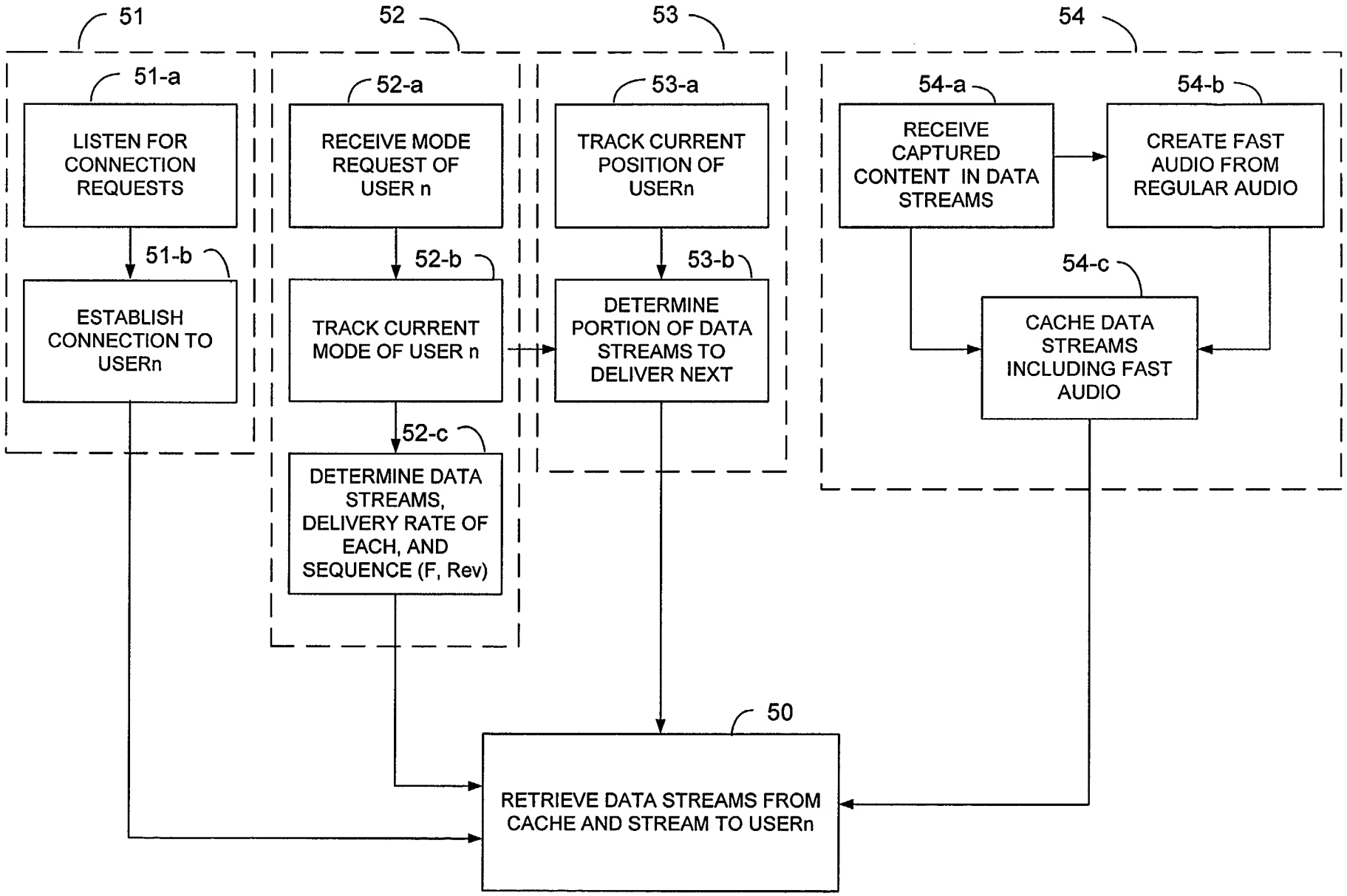

51
52
53
54
51-a
LISTEN FOR CONNECTION REQUESTS
51-b
ESTABLISH CONNECTION TO USERn
52-a
RECEIVE MODE REQUEST OF USER n
52-b
TRACK CURRENT MODE OF USER n
52-c
DETERMINE DATA STREAMS, DELIVERY RATE OF EACH, AND SEQUENCE (F, Rev)
53-a
TRACK CURRENT POSITION OF USERn
53-b
DETERMINE PORTION OF DATA STREAMS TO DELIVER NEXT
54-a
RECEIVE CAPTURED CONTENT IN DATA STREAMS
54-b
CREATE FAST AUDIO FROM REGULAR AUDIO
54-c
CACHE DATA STREAMS INCLUDING FAST AUDIO
50
RETRIEVE DATA STREAMS FROM CACHE AND STREAM TO USERn

FIG. 5

| 1 | MODE | LIVE | | | REWIND | | PLAY | | | LIVE | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | DATA DELIVERED | $VF_1$ | $VF_2$ | $VF_3$ | $VF_2$ | $VF_1$ | $VF_1$ | $VF_2$ | $VF_3$ | $VF_9$ | $VF_{10}$ |
| 3 | ORIGINAL TIME STAMP | $t_1$ | $t_2$ | $t_3$ | $t_2$ | $t_1$ | $t_1$ | $t_2$ | $t_3$ | $t_9$ | $t_{10}$ |
| 4 | ADJUSTED TIME STAMP | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | $t_6$ | $t_7$ | $t_8$ | $t_9$ | $t_{10}$ |
| 5 | REAL TIME | $t_1$ ——— $t_{10}$ | | | | | | | | | |

FIG. 6

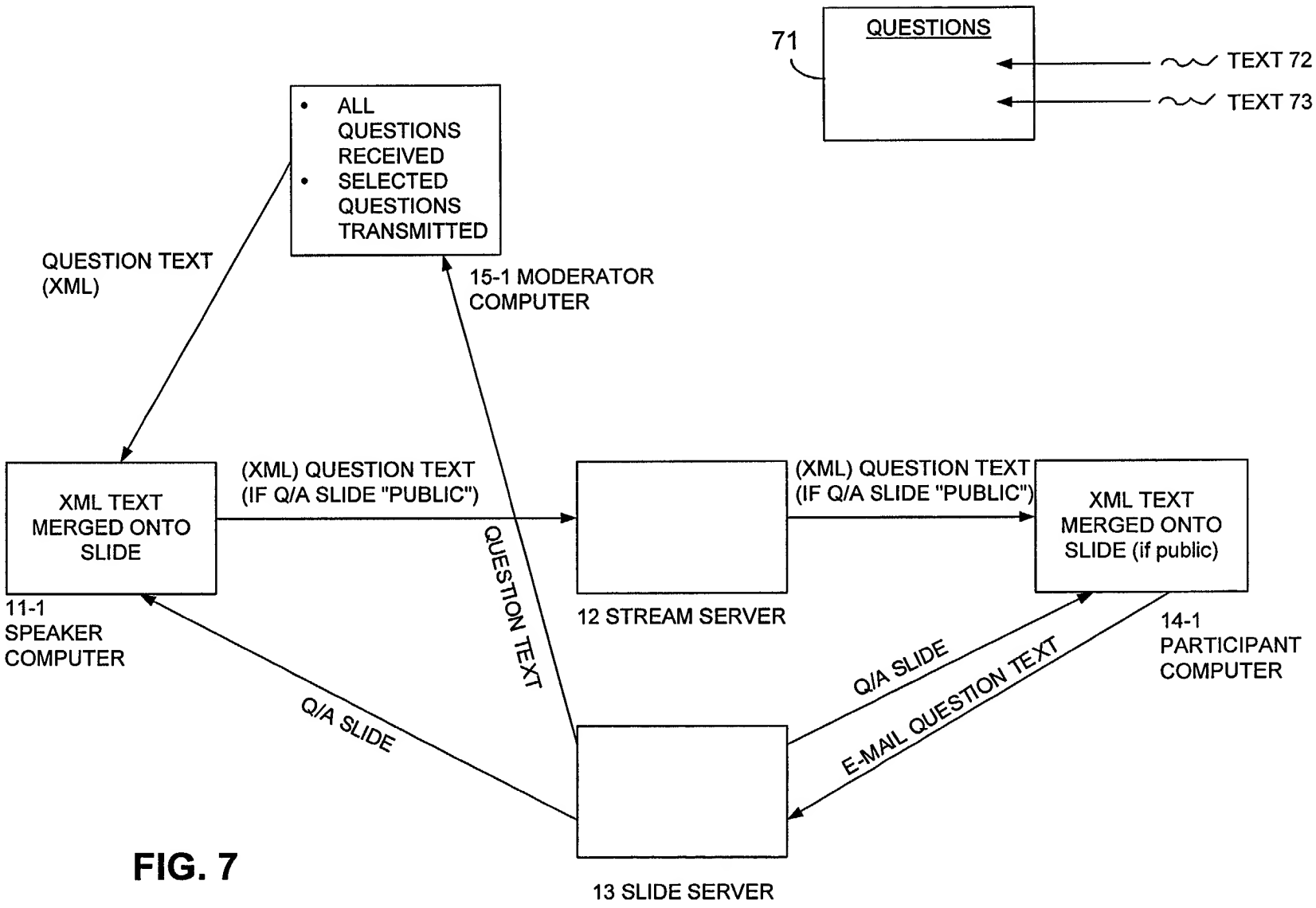

71
QUESTIONS
TEXT 72
TEXT 73
• ALL QUESTIONS RECEIVED
• SELECTED QUESTIONS TRANSMITTED
QUESTION TEXT (XML)
15-1 MODERATOR COMPUTER
XML TEXT MERGED ONTO SLIDE
(XML) QUESTION TEXT (IF Q/A SLIDE "PUBLIC")
(XML) QUESTION TEXT (IF Q/A SLIDE "PUBLIC")
XML TEXT MERGED ONTO SLIDE (if public)
11-1 SPEAKER COMPUTER
12 STREAM SERVER
14-1 PARTICIPANT COMPUTER
QUESTION TEXT
Q/A SLIDE
Q/A SLIDE
E-MAIL QUESTION TEXT
13 SLIDE SERVER

FIG. 7